

SCHEME FOR COMPENSATORY AFFORESTATION

Details scheme for Compensatory Afforestation in degraded land (13.432 ha) to be carried out in lieu of 6.716 ha of forest area to be diverted for construction of transmission Line of LOOP-Out section of 132 kv MLHEP-KHLIEHRIAT LINE at Mynkre in East Jaintia Hills District by Meghalaya Power Transmission Corporation Limited.

- 1. Name of Project** : Diversion of deemed private forests for construction of transmission Line of LOOP-Out section of 132 kv MLHEP-KHLIEHRIAT LINE at Mynkre.
- 2. User agency** : Meghalaya Power Transmission Corporation Limited.
- 3. Location of CA** : Compartment 11B, Saipung Reserve Forests, East Jaintia Hills District
- 4. Area to be afforested** : 13.432 ha degraded land (6.716 hectare)
- 5. Approved Wage Rate** : Rs 300/Day (fixed by Labour Department)

6. Plantation Model and technical details

Area of Compensatory Afforestation: 13.432 ha degraded land (6.716 hectare)

Species to be planted : Mixed plantation of species like *Michelia champaca*, *Gmelina arborea*, *Ex-bucklandia populnea*, *Chukrasia tabularis*, *Artocarpus spp.*, *Alnus nepalensis*, *Bombax ceiba*, *Ailanthus exelsa* etc.

- i. **Method of Planting:** Planting of nursery raised seedlings in pre-dug pits of size 0.30 m x 0.30 m x 0.30 m.
- ii. **Spacing:** 2.00 m x 2.00 m.
- iii. **Number of seedlings to be planted per Hectare:** 2,500 seedlings per hectare.
- iv. **Number of seedlings to be raised in nursery per hectare keeping in view in nursery-mortality-cum-culling, transit mortality and plantation site mortality @ 15%, 5% & 20 % respectively:** 2500 + additional 40% = 3,500 seedlings per hectare.
- v. **Number of seedlings to be raised for plantation over 6.716 hectares** = 6.716 x 3,500 = 23506 nos., @ 1000 seedlings per bed = 24 nursery beds.
- vi. **Time Schedule:** Nursery work to be initiated in the month of April following the receipt of fund from the user agency and the advance earth work for raising of plantation are to be initiated from the month of December in the same year in which nursery work has been carried out.

A. CREATION OF NURSERY

1. Number of seedling to be raise: 1000 seedlings per bed.

2. Basic for cost estimates: The manday for creation of nursery and plantation in one hectare is taken from the Cost norms raising plantation and nursery etc as approved vide government of Meghalaya, Forests & Environment Department letter no.FOR.85/86/461 Dated Shillong the 5th June 2017.

3. Wage Rate: Rs 300/Day (fixed by Labour Department vide notification No.LBG 75/2012/361 Dated Shillong, the 7th January 2019.

ESTIMATE FOR CREATION OF ONE BED POLY POT PERMANENT NURSERY

1. First year creation of 1 bed nursery

Sl. No.	Item of work	Creation of nursery	
		Mandays	Amount
1	Preparation of Standard - size beds (13.00 m x 1.30 m x 0.30 m) for replacing the polythene bags	1.5	Rs 450
2	Cost of polythene Bags (22.5cm x 15mm) in one bed 4kgs are required	7.2	Rs 2160
3	Cost of manure mixed earth in polythene bags including pounding after filling	9	Rs 2700
4	Cost of cow dung including transportation	0.6	Rs 180
5	Cost of seeds non pine sp.	1.5	Rs 450
6	Cost of Goat proof fencing net including cost of wooden fencing posts, erecting, fixing, fitting etc. complete and including cost of staples	1	Rs 300
7	Cost of sowing including hoeing, mulching etc.	1	Rs 300
8	Cost of pricking and transplanting of seedlings from germination beds to polybags	2	Rs 600
9	Cos of construction of shades for protection of seedlings from frost during winter and direct sunlight in warm areas. (a) Cost of materials (b) Labour cost	1 2	Rs 300 Rs 600
10	Cost of weeding 4 weeding @ 1 dls p.w.	2.6	Rs 780
11	Cost of watering	1	Rs 300
12	Miscellaneous cost e.g fungicides tools & plants, making of inspection path, fertilizers, chemicals, lime pesticides/insecticides, growth hormones, etc	0.2	Rs 60
	Total in the first year	30.6	Rs 9180

2. Maintenance of 1 bed nursery during the Second year

Sl. No.	Item of work	Second year maintenance of 1 bed nursery	
		Mandays	Amount
1	Weeding- 3 times @ 1 dls p.w	1.95	Rs 585
2	Watering	0.5	Rs 150
	Total in the Second year	2.45	Rs 735

Grand total for creation of 1 bed nursery:

$$= 1 + 2$$

$$= \text{Rs } 9180 + \text{Rs } 735$$

$$= \text{Rs } 9915/- \text{ per bed}$$

Therefore, the total cost for creation of 24 beds poly pot nursery = Rs 9915 x 24

$$= \text{Rs } 237960.00/-$$

ABSTRACT

Year	Cost per bed in Rs	Estimate cost (Rs) for 24 beds
First year	Rs 9180.00	Rs 220320.00
Second year	Rs 735.00	Rs 17640
Total cost for nursery	Rs 9915	Rs 237960.00

B. Creation of Plantation

1. Area of Plantation: 6.716 hectares.

2. Basic for cost estimates: The manday for creation of nursery and plantation in one hectare is taken from the Cost norms raising plantation and nursery etc as approved vide government of Meghalaya, Forests & Environment Department letter no.FOR.85/86/461 Dated Shillong the 5th June 2017.

3. Wage Rate: Rs 300/Day (fixed by Labour Department vide notification No.LBG 75/2012/361 Dated Shillong, the 7th January 2019).

Preliminary Works:

Sl. No.	Items of works	Area in hectare	Manday	Amount (Rs)
1	2	3	4	5
1	Survey and demarcation including fixing of boundary marks at strategic points	1	2	600
2	Jungle clearance, burning, land preparation including staking, pit digging, hoeing etc.	1	24	7200
3	Fencing :- With 3 strand barbed wire and wooden fencing posts including cost of staples, fixing, fitting etc. complete	1	64	19200
4	Cost of collection of seeds	1	5	1500
5	Construction of camp hut and inspection path	1	4	1200
6	Purchase of tools and plants (Lump sum)	1	2	600
7	Supervisory staffs to be engaged on casual basis from amongst the local people	1	12	3600
	Total cost in the preliminary year	1	113	33900

Therefore, the total cost in the preliminary year for the plantation of 6.716 ha = 6.716 x 33900 = Rs. 227672.40/-

= Rs. 227672.00/-

Creation and First Year maintenance of Plantation

Sl. No.	Items of works	Area in hectare	Man days	Amount (Rs)
1	2	3	4	5
1	Creation of plantation: Planting of nursery raised seedlings including carriage from nursery canters to plantation sites and proper ramming after planting etc. complete (for plantation raised by nursery seedlings only)	1	16	4800.00
2	Three (3) weedings @ 15 mandays per weeding	1	45	13500.00
3	Fire protection during dry and windy season: (i) Wages of fire watchers from November of creation year to April of the following year. (ii) Fire line clearance :- Internal and external fire line including controlled burning	1	10 10	6000.00
	Total cost for the First Year		81	24300.00

Therefore, the total cost in the creation and first year maintenance of the plantation of 6.716 ha = 6.716 x Rs. 24300

= Rs. 163198.80/-

= Rs. 163199.00/-

Second Year of Plantation:

Sl. No.	Items of works	Area in hectare	Man days	Amount (Rs)
1	2	3	4	6
1	Vacancy filling in mortality areas	1	4	1200.00
2	Three (3) weedings @ 15 mandays per weeding	1	45	13500.00
3	Fire protection during dry and windy season: (i) Wages of fire watchers from November of creation year to April of the following year. (ii) Fire line clearance :- Internal and external fire line including controlled burning	1	10 10	6000.00
	Total cost for the Second Year		69	20700.00

Therefore, the total cost in the second year of the plantation of 6.716 ha = 6.716 x Rs. 20700

= Rs. 139021.20/-

= Rs 139021.00/-

Third Year of Plantation:

Sl. No.	Items of works	Area in hectare	Man days	Amount (Rs)
1	2	3	4	5
1	Vacancy filling in mortality areas	1	4	1200.00
2	Two (2) weedings @ 15 mandays per weeding	1	30	9000.00
3	Fire protection during dry and windy season : (i) Fire line clearance controlled burning (ii) wages of fires watchers from November of the creation year to April of the following year	1 1	10 10	3000.00 3000.00
4	Miscellaneous cost e.g repair of fencing and maintenance of inspection path etc	1	4	1200.00
	Total cost for the Third Year		58	17400.00

Therefore, the total cost in the Third year of the plantation of 6.716 ha = 6.716 x Rs. 17400

= Rs. 116858.40/-

= Rs. 116858.00/-

Fourth Year of Plantation:

Sl. No.	Items of works	Area in hectare	Man days	Amount (Rs)
1	2	3	4	5
1	Fire protection works (i) Wages of fires watchers. (ii) Fire line clearance including controlled burning	1	10 10	6,000.00
2	One weeding in areas where there is heavy growth of weeds/jungles	1	15	4500.00
	Total cost for the Fourth Year		35	10,500.00

Therefore, the total cost in the Fourth year of the plantation of 6.716 ha = 6.716 x Rs. 10500

= Rs. 70518.00/-

Fifth Year of Plantation:

Sl. No.	Items of works	Area in hectare	Man days	Amount (Rs)
1	2	3	4	6
1	Fire protection works (i) Wages of fires watchers. (ii) Fire line clearance including controlled burning	1	10 10	6,000.00
2	Cost of singling out operation to provide proper spacing from one plant to another	1	6	1800.00
3	One weeding	1	15	4500.00
4	Miscellaneous expenditure e.g salvaging of fencing materials from the plantation centre wherever fencing is no longer necessary.	1	3	900.00
	Total cost for the Third Year		44	13200.00

Therefore, the total cost in the fifth year of the plantation of 6.716 ha = 6.716 x Rs. 13200

= Rs. 88651.20/-

= Rs. 88651.00/-

Sixth Year of Plantation:

Sl. No.	Items of works	Area in hectare	Man days	Amount (Rs)
1	2	3	4	6
1	Fire protection works (i) Wages of fires watchers. (ii) Fire line clearance including controlled burning	1	10 10	6,000.00
2	Cost of singling out operation to provide proper spacing from one plant to another	1	6	1800.00
3	One weeding	1	15	4500.00
4	Miscellaneous expenditure e.g salvaging of fencing materials from the plantation centre wherever fencing is no longer necessary.	1	3	900.00
	Total cost for the Third Year		44	13200.00

Therefore, the total cost in the Sixth year of the plantation of 6.716 ha = 6.716 x Rs. 13200

= Rs. 88651.20/-

= Rs. 88651.00/-

Seventh Year of Plantation:

Sl. No.	Items of works	Area in hectare	Man days	Amount (Rs)
1	2	3	4	6
1	Fire protection works (i) Wages of fires watchers. (ii) Fire line clearance including controlled burning	1	10 10	6,000.00
2	Cost of singling out operation to provide proper spacing from one plant to another	1	6	1800.00
3	One weeding	1	15	4500.00
4	Miscellaneous expenditure e.g salvaging of fencing materials from the plantation centre wherever fencing is no longer necessary.	1	3	900.00
	Total cost for the Third Year		44	13200.00

Therefore, the total cost in the Seventh year of the plantation of 6.716 ha = 6.716 x Rs. 13200

= Rs. 88651.20/-

= Rs. 88651.00/-

Eight Year of Plantation:

Sl. No.	Items of works	Area in hectare	Man days	Amount (Rs)
1	2	3	4	6
1	Fire protection works (i) Wages of fires watchers. (ii) Fire line clearance including controlled burning	1	10 10	6,000.00
2	Cost of singling out operation to provide proper spacing from one plant to another	1	6	1800.00
3	One weeding	1	15	4500.00
4	Miscellaneous expenditure e.g salvaging of fencing materials from the plantation centre wherever fencing is no longer necessary.	1	3	900.00
	Total cost for the Third Year		44	13200.00

Therefore, the total cost in the Eight year of the plantation of 6.716 ha = 6.716 x Rs. 13200

= Rs. 88651.20/-

= Rs. 88651.00/-

C. Soil & Moisture Conservation @ 15 % of the total CA cost in degraded land

= Rs 392950.00/- (Rupees three lakhs ninety two thousand nine hundred fifty) only

(1) Headload Transportation cost of construction materials approximately 15 km distant @ 30% of SMC Cost = Rs 117885.00/- (Rupees one lakh seventeen thousand eight hundred eighty five) only

(2) Contingencies @ 3 % of SMC Cost = Rs 11788.50

= Rs 11789.00/- (Rupees eleven thousand seven hundred eighty nine) only

Total = Rs 392950.00 + Rs 117885.00 + Rs 11789.00

= Rs 522624.00/- (Rupees five lakh twenty two thousand six hundred twenty four) only

D. Monitoring and evaluation @ 10% of the total CA cost in degraded land

= Rs 261966.00/- (Rupees two lakhs sixty one thousand nine hundred sixty six) only

E. Miscellaneous cost @ 3% of the total CA cost of degraded land = Rs 78589.92

= Rs 78590.00/- (Rupees seventy eight thousand five hundred ninety) only

ABSTRACT COST INVOLVED

Particular	Activities	Estimated Cost (Rupees)	
		Amount	Total amount
A. Creation of nursery for 24 beds	First year creation	Rs 220320.00	Rs 237960.00
	Second year maintenance	Rs 17640.00	
B. Creation of 6.716 hectare plantation	Preliminary work	Rs. 227672.00	Rs 1071872.00
	First Year creation and maintenance	Rs. 163199.00	
	Second Year maintenance	Rs. 139021.00	
	Third Year maintenance	Rs. 116858.00	
	Fourth Year maintenance	Rs. 70518.00	
	Fifth Year maintenance	Rs. 88651.00	
	Sixth Year maintenance	Rs. 88651.00	
	Seventh Year maintenance	Rs. 88651.00	
	Eighth Year maintenance	Rs. 88651.00	
	Total CA	Rs 1309832.00	Rs1309832.00 (Rupees thirteen lakhs nine thousand eight hundred thirty two) only
	Total CA cost in double degraded land	Rs 1309832 x 2	Rs 2619664.00 (Rupees twenty six lakhs nineteen thousand six hundred sixty four) only
C. SMC Conservation	15 % of the total CA cost in degraded land		Rs 392950.00/- (Rupees three lakhs ninety two thousand nine hundred fifty) only
	(1) Headload Transportation cost of construction materials approximately 15 km distant @ 30% of SMC Cost.		Rs 117885.00/-
	(2) Contingencies @ 3 % of SMC Cost		Rs 11788.50 = Rs 11789.00/-
	Total under SMC		Rs 522624.00/- (Rupees five lakhs twenty two thousand six hundred twenty four) only
D. monitoring and evaluation	@ 10% of the total CA cost in degraded land		Rs 261966.00/- (Rupees two lakhs sixty one thousand nine hundred sixty six) only

E. Miscellaneous cost	@ 3% of the total CA cost of degraded land		Rs 78589.92 = Rs 78590.00/- (Rupees seventy eight thousand five hundred ninety) only
GRAND TOTAL			Rs 3482844.00/- (Rupees thirty four lakhs eighty two thousand eight hundred forty four) only.

Prepared by



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verified



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